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The Cautious Approach: Police cautions and the impact on youth reoffending

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Previous research into youth diversionary practices has shown that diverting young people away from the formal court system leads to a positive impact on youth reoffending behaviour. A number of studies have examined the impact of police cautions or youth conferences compared to formal court proceedings. However, there is a paucity of studies which focus purely on the impact of police dispositions at the pre-court stage. The current study examines the characteristics that impact on a young person receiving a caution as opposed to a charge from police and the impact this has on reoffending within a twelve month follow up period. A cohort of 5,981 young people who were recorded as allegedly committing an offence between 1 April 2015 and 31 March 2016 were included in this study. Fifty-six percent of the cohort received a caution and the remaining 44% were charged by police. A logistic regression model was constructed to examine the differences between the cautioned and charged young people for demographic, offending history and incident characteristics. This model was used to develop a propensity score for each young person which was then used to match a group of cautioned young people to a group of charged young people. Consistent with findings of previous studies, young people who were cautioned were less likely to reoffend than those charged. The current study also found a longer duration between the index incident and their first reoffending incident for cautioned young people as opposed to those charged.

Keywords: young offenders, recorded crime, reoffending, cautions, risk factors

1. Introduction

Juvenile offending behaviour has been a topic of criminological research for many decades. Typically, this research indicates that juvenile offenders become involved in criminal behaviour between the ages of 12 and 16 years and the majority desist from offending after one or two police contacts (Jordan & Farrell, 2013, Sutherland & Millsted, 2016c). Those individuals who do persist in reoffending have been investigated in a number of Australian studies (Allard et al. 2010; Chen et al. 2005; Cunningham, 2007; Dennison et al. 2006; Hayes & Daly, 2004; Jordan & Farrell, 2013; Payne & Weatherburn, 2015; Snowball, 2008; Stewart et al. 2016; Vignaendra & Fitzgerald, 2006). Generally, these studies have focussed on comparing how different pathways through the juvenile justice system affect reoffending behaviour, including comparisons between the impact of cautions, youth conferencing and court appearances.

The use of police cautions have been associated with several potential benefits to both the individual cautioned and the justice system (Cunningham, 2007; Jordan & Farrell, 2013). Cautions are used as a method of serving a formal warning to the juvenile about their behaviour while avoiding the stigma associated with going to court. Reductions in criminal justice costs and time have also been attributed to the use of cautions, making them an attractive policy option (Dennison et al. 2006; Jordan & Farrell, 2013). Studies examining the use of police cautions have found that they have a more positive impact on reoffending compared to more formal criminal justice processes, such as charge

or summons. For example, Dennison et al. (2006) found that the majority of juvenile offenders in Queensland, who were cautioned for their first offence were less likely to have further contact with the criminal justice system than those who appeared in court. Studies in the Northern Territory and in New South Wales have shown similar results (Cunningham, 2007; Vignaendra & Fitzgerald, 2006; Payne & Weatherburn, 2015). Cunningham (2007) found that 39% of juveniles who appeared in court in the Northern Territory reoffended within 12 months, compared to 21% of those who were diverted to a conference and 19% of those who received a warning. Vignaendra and Fitzgerald (2006) reported that 42% of juveniles who were cautioned in New South Wales reoffended within five years, compared to 58% of those who were diverted to a conference.

Demographic factors such as Indigenous status, sex and age have been shown to have a significant influence on reoffending rates. A number of studies have concluded that male juveniles have a much greater propensity to reoffend than females (Chen et al. 2005; Dennison et al. 2006; Hayes & Daly, 2004; Stewart et al. 2016; Vignaendra & Fitzgerald, 2006). Allard et al. (2010) and Snowball (2008) identified that Indigenous youth have more contact with the justice system and are more likely to reoffend than non-Indigenous youth. Allard et al. (2010) noted that Indigenous youth were also less likely to be diverted from the courts in New South Wales, South Australia and Western Australia, supporting the earlier results of Snowball (2008). Low rates of diversion away from the courts may contribute to the over representation of Indigenous people in the criminal justice system (Murphy et al. 2010). Additionally, investigations into the interaction effects between Indigenous status and sex have concluded that Indigenous males are much more likely than non-Indigenous males, Indigenous females or non-Indigenous females to be referred to court and to subsequently reoffend (Allard et al. 2010; Chen et al. 2005).

Previous research examining juvenile reoffending indicate that offenders who start offending at an earlier age have higher rates of reoffending across all outcomes. For example, a Queensland study conducted by Dennison et al. (2006) found that juveniles who reoffended were significantly younger at the time of their first caution compared to those who did not reoffend. Chen et al. (2005) demonstrated similar results in New South Wales, finding that juveniles who were younger at their first court appearance had a significantly higher rate of reappearance in court. Vignaendra and Fitzgerald (2006) found that in New South Wales, offenders that were younger when they completed a youth conference were more likely to have a subsequent proven court appearance than older offenders. Conversely, the study also found that the probability of reoffending for those aged 16 years and over at the time of their first police caution was slightly higher than for younger age groups. However, the effect size of this finding was small (Vignaendra and Fitzgerald 2006).

Similarly, Payne and Weatherburn (2015) found that age at first contact had no significant impact on the risk of reoffending when other influencing factors are held constant. Payne and Weatherburn (2015) argue that a likely explanation for this finding is that other factors such as Indigenous status or the nature of their initial disposition (i.e., a caution as opposed to referral to court) are more influential in predicting reoffending in young people. For example, younger offenders were more likely to be given a caution in comparison to older offenders. Additionally, a limitation of Payne and Weatherburn's (2015) study was that it was purposely limited to *reconviction* and therefore, may be biased towards reoffending that is serious enough to warrant a conviction in court.

Further factors associated with juvenile reoffending include geographic location and offence type. A small number of studies have found that geographical location of residence impacts on how likely someone is to reoffend. Cunningham (2007) found that individuals from regional centres or communities in the Northern Territory were more likely to reoffend than those from Darwin. Conversely, Payne and Weatherburn (2015) found that offenders from regional areas of New South Wales were less likely to reoffend than those from metropolitan or remote areas. The contrasting results of these two studies highlights the importance of location specific research that takes into account the unique differences in each state and/or territory. The differing results of these two studies may, in part, be due to different population rates across metropolitan and regional or remote areas. According to regional population data from the

Australian Bureau of Statistics (2017), 38% of the population in the Northern Territory live in non-significant urban areas, whereas, only 14% of the population in New South Wales live in non-significant urban areas. As Cunningham (2007) states, remoteness of location can affect access to justice resources and impact on the options available for young offenders. Jordan and Farrell (2013) also noted that diversionary programs are limited for individuals in rural or regional areas due to a range of factors, including local culture, limited police time to engage with diversionary programs and a higher visibility of young offenders. Jordan and Farrell (2013) found that in 2010-11, police cautioning rates in many rural and regional areas of Victoria were well below that of metropolitan Melbourne and the state average.

Several studies have found that reoffending rates are higher for juveniles who commit a property offence, compared to those who commit a violent crime (Cunningham, 2007; Vignaendra & Fitzgerald, 2006; Stewart et al. 2016). Payne and Weatherburn (2015) found that overall, individuals who had a violent offence as their index offence were more likely to reoffend. Chen et al. (2005) noted that juvenile offenders who appeared in court for offences other than property or violent offences were less likely to reoffend than those who first committed a violent or a property offence.

1.1 Victorian context

For most jurisdictions in Australia, including Victoria, police have broad discretion in the application of juvenile cautions (Snowball, 2008; Jordan & Farrell, 2013). The formal cautioning process involves both the juvenile and a parent/guardian and requires a police officer to explain the impact of the offence and possible consequences of further offending. The cautions are issued solely based on the discretion of police member and there is no legislation guiding these powers (Jordan & Farrell, 2013). Under the 'Victoria Police Manual – Procedures and Guidelines' (Victoria Police, 2017) juveniles are eligible for cautions if they meet following mandatory criteria:

- The individual admits to the offence;
- The individual is between the ages of 10-17 years;
- Their parent/guardian consents to the caution; and
- Their parent/guardian is present at the time of the formal provision of the caution.

Further guidelines are also provided to police officers, including: the offender should generally have no prior criminal history; that cautions should only be considered for sexual and related offences in exceptional circumstances; and that in general, a caution should not be given for a single criminal incident with more than five separate victims or more than five offences against one victim (Victoria Police, 2017). Victoria Police are currently reviewing these policies and guidelines.

Statistics from the Crime Statistics Agency (2017a) revealed that the number of offender incidents recorded for juveniles in Victoria has remained relatively stable over the previous 10 years. However, in the same time period the number of unique juveniles recorded for an offence each year has dropped by 42.6% (from 13,008 people in 2008 to 7,517 in 2017). Over a similar period, Jordan and Farrell (2013) noted a downward trend in the proportion of cautions issued to young people in Victoria between 2006 and 2011; a trend that has continued through to 2017 (Crime Statistics Agency, 2017a). Recent research by Walker (2017) indicated that the number of juveniles recorded for a property and deception offence as their first recorded offence has decreased over the last five years, dropping by an average of 8.6% per year. Walker (2017) also noted that first time young offenders recorded for moderately serious offences (including criminal damage, steal from a retail store, etc.) were decreasing as well, specifically for offences related to stealing from a retail store. As previously mentioned, studies have shown that property offences are more likely to result in a caution compared to more violent offences. Although, as Sutherland and Millsted (2016b) showed, proportionally, juvenile offenders in Victoria are more likely to receive a police caution for drug offences than any other offence type. However, this may be due to the Victoria Police's Drug Diversion Program, which provides specific cautioning options for drug use and possession offences. The results found by Walker (2017) may be impacting on

the number of first time offenders who receive a caution, however this does not take into account young people who have multiple offending incidents.

Sutherland and Millsteed (2016b) demonstrated that police are more likely to give a caution to juveniles with only one offence recorded in a year, than those who have multiple offences within a year. Recent trajectory analysis by Sutherland and Millsteed (2016c) has shown that 88.7% of Victorian juvenile offenders fit into a 'Low' offending group, which had an average of only 0.4 incidents per year of age from 10 to 17 years. This finding supports Millsteed and Sutherland (2016), who found that most Victorian young offenders tend to commit one or two offences, with 63.3% of all offenders aged between 10 and 24 years in Victoria being recorded for only one incident by police in the 2015-16 period. However, Millsteed and Sutherland (2016) also showed that young offenders that have been involved in three or more incidents account for almost two thirds of all incidents committed by young offenders in Victoria. Sutherland and Millsteed (2016a) found a 15% decrease in the number of unique juvenile offenders recorded by police for at least one offence between their 2006 to 2010 cohort and their 2011 to 2015 cohort. Despite this decrease, Sutherland and Millsteed (2016a) also demonstrated that the average number of incidents per juvenile offender has increased, rising from 2.6 for the 2006-2010 cohort to 3.1 for the 2011-2015 cohort.

In the last decade, the nature of juvenile offending in Victoria has demonstrated considerable change. While the number of individual young people recorded for offending has declined substantially, the number of offending incidents has remained the consistent (Crime Statistics Agency, 2017a). This may be attributed to a reduction in the number of first time juvenile offenders (Walker, 2017), in addition to an increase in the number of offending incidents per individual (Sutherland & Millsteed, 2016a). As police cautioning guidelines require that prior criminal history be taken into consideration when issuing a caution, these findings support the noted decrease in the number of police cautions issued (Jordan & Farrell, 2013, Crime Statistics Agency, 2017a).

1.2 The current study

Current research into youth offending in Victoria is somewhat limited. Despite recent work by the Crime Statistics Agency (Millsteed & Sutherland, 2016; Sutherland & Millsteed, 2016a; and Sutherland & Millsteed, 2016b; Walker, 2017) and the Sentencing Advisory Council (Steward et al. 2016) youth reoffending following police contact has not been examined. The current study aims to add to the growing body of research into youth crime in Victoria by investigating the impact of different police responses to youth offending on reoffending behaviour. Given the current focus on evaluating and improving youth programs, improving the understanding of youth offending behaviour is timely.

The primary objective of this study is to explore how different police dispositions, specifically cautions and charges, are related to the reoffending behaviour of youth offenders. This objective will be achieved through an examination of recorded crime data relating to youth offenders who allegedly committed an offence in the year ending March 2016, with a specific focus on answering the following research questions:

1. What effect do factors such as sex, age, Indigenous status, location of residence and offending history have on the type of action taken by police, and on the likelihood of reoffending?
2. What proportion of youth offenders have re-contact with police following an offence?
3. Are juveniles who are cautioned for an offence more or less likely to have re-contact with police than those charged for an offence?
4. How long does it take a youth person to reoffend following a caution or a charge?

2. Method

2.1 The data

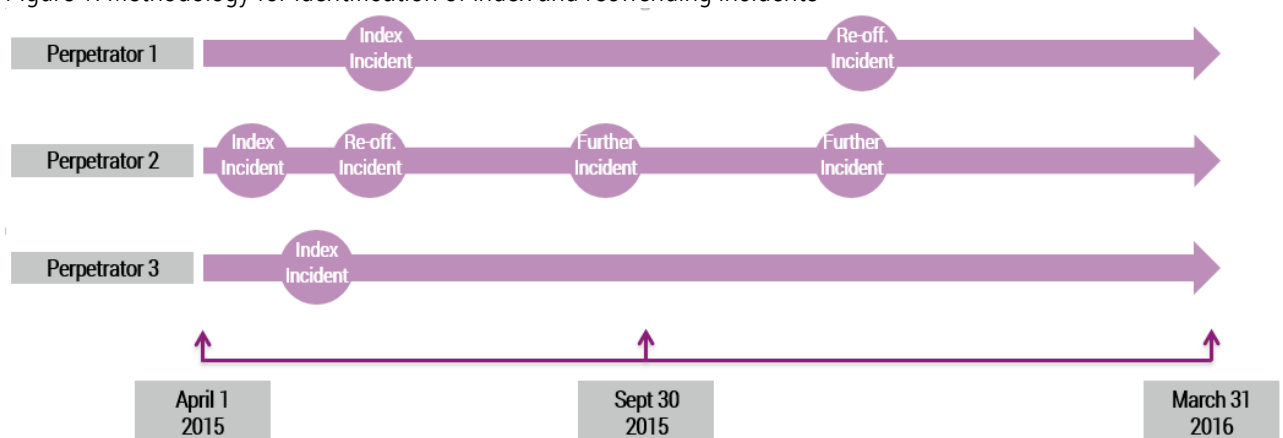
This study utilised data extracted from Victoria Police's Law Enforcement Assistance Program (LEAP) database on 18th April 2017. The data was based on a cohort of alleged youth offenders who were recorded as having committed at least one offence between April 2015 and March 2016 and were aged between 10 and 17 years at the time of the offence. However, it is important to note, that these individuals may have committed offences prior to the reference period. An individual's 'index incident' was defined as the first recorded police action for one or more offences on the same day in the year ending March 2016. The cohort were divided into two groups; those that were 'cautioned' for their index incident and those that were 'charged' for their index incident.

When issuing a caution, Victoria Police members must adhere to several eligibility criteria and guidelines. These are outlined in the section above. For this report, only the age of the individual at the time of the offence was able to be assessed using LEAP data, therefore this was determined as technical eligibility.

In this report, the overall cohort is referred to as 'youth offenders'. However it should be noted that offenders and offences referred to in the paper are alleged rather than proven offenders and offences, because this study does not examine court outcome data indicating whether police charges and other offences recorded by police were subsequently proven in court. It should also be noted that Indigenous status was measured using the CSA's 'most frequent' counting rule, which classifies Indigenous status based on the most frequent status recorded by police for that offender within CSA data holdings (Crime Statistics Agency, 2017b). Additional data items that were included in the analysis for this project included demographic characteristics of youth offenders, characteristics of the individuals' offending history, index incident and reoffending behaviour. These variables were included to enable analysis of any differences in the characteristics between cautioned and charged alleged youth offenders.

In addition, if an alleged offender was recorded for an additional offence within one year of their index incident they were considered a reoffender. This second offending incident was deemed their 'reoffending incident'. However, it should be noted that this definition of *reoffending* differs from the Victoria Police definition of *recidivism* – an offender who has three offences or more recorded in a 12 month period. Any additional offences recorded against individuals after their reoffending incident, and within the one year follow-up period, were defined as 'further incidents'. Figure 1 provides examples of how this methodology might apply for individual offenders.

Figure 1. Methodology for identification of index and reoffending incidents



2.2 Statistical analyses

Descriptive statistics were generated in order to examine trends in police cautioning and to provide a demographic profile of the youth offender cohort.

Chi-square analyses (χ^2) were used to statistically compare the characteristics of cautioned and charged offenders. A probability value less than an alpha of .05 was used to indicate a statistically significant relationship between the relevant characteristic and whether the youth offender was cautioned or charged. The closer the probability value is to zero the more likely that the results represent true relationships between factors tested and cautioned/charged in the population, as opposed to random variation or chance.

Following the initial chi-square analyses, potential predictors that had a statistically significant bivariate relationship with cautioned/charged (at the $p < .05$ level) were included in a binomial logistic regression model. This model was used to determine which combination of explanatory factors was most useful in determining whether the youth offender is cautioned or charged.

Further analyses were conducted in order to determine the impact of cautioning on whether a youth offender was recorded for a further offence in the year following their index incident. Because this analysis uses retrospective data and is not based on random allocation of offenders to caution or charged dispositions, it is possible there is a selection bias associated with whether an offender receives a caution or a charge. In turn, this might impact on rates of reoffending for each police disposition. For example, a police officer may caution a youth offender who has no history of offending, and not caution someone who has a range of prior offences. Therefore, the two offenders were not randomly allocated to each disposition. In this situation, the cautioned youth may already be less likely to reoffend, regardless of the impact of their caution, due to selection bias. In order to minimise the risk of this impacting on rates of reoffending, a methodology termed 'propensity score matching' was used. The method involved several steps. First, cautioned and charged individuals were compared on a range of potential factors that, theoretically, could impact on their likelihood to receive a caution. A logistic regression model was then constructed to predict how likely an offender is to be cautioned based on these factors.

The regression model was used to develop a propensity score for each offender, and a group of cautioned offenders was matched to a group of charged offenders based on how close their propensity scores matched. In this study, one-to-one matching without replacement was used with a caliper of 0.05. Following matching, the offenders in the matched groups were again compared to determine whether they differed significantly on any of the predictor variables. No significant differences were found between the matched groups, therefore they were considered to be statistically equivalent with respect to the observed predictors (Wan et al. 2014). The reoffending outcomes for the matched groups were then compared using chi-square analyses.

Kaplan-Meier survival estimates determined the proportion of matched offenders recorded for reoffending incidents at various time points following their index incident. Log-rank tests were then used to identify differences in time to a reoffending incident based on the response to their index incident (caution or charge).

3. Results

Between 1 April 2015 and 31 March 2016, 7,320 young people aged between 10 and 17 years were recorded for an index incident in Victoria. Eighty-two percent ($n=5,981$) of these were recorded as having been cautioned or charged by police for their index incident, the remaining 18.3% ($n=1,339$) were recorded with other police dispositions (i.e., intent to summons, warning or penalty infringement notice). As the study aims to compare the outcome of police cautions to police charges, the latter group were subsequently removed from the analysed sample.

The final cohort comprised 5,981 young people recorded for at least one offence between April 2015 and March 2016. Fifty-six percent (n=3,368) received a caution for their index incident and the remaining 43.7% (n=2,613) received a charge.

The mean age of the cohort, as recorded at the time of their index incident, was 15.1 years (SD = 1.6). In addition, 71.5% (n=4,269) were males, 28.5% (n=1,704) were females and 0.1% (n=8) did not have a recorded sex. Sixty-nine percent (n=4,128) were recorded as non-Indigenous, 6.9% (n=413) were Aboriginal and/or Torres Strait Islander and 24.1% (n=1,440) did not have a known Indigenous status recorded.

3.1 Police use of cautioning across Victoria

Police utilisation of cautions varied widely across the state. Figure 2 shows the proportion of cautions issued in each Police Division. The highest proportion of cautions at this geographic level was recorded in SD2, where 65.0% of all young people recorded were cautioned for their index incident. Other divisions with high proportions were SD4 and WD5, with 60.8% of all index incidents in these divisions resulting in a caution. In contrast, the lowest proportion of cautions were recorded in WD4, where 46.8% of all index incidents were cautioned. Furthermore, ND3 and ED5 also recorded low proportions of cautions (47.1% and 48.4% respectively).

Figure 2. Map of Victoria showing the percentage of young people cautioned by police by Police Division, April 2015 to March 2016.

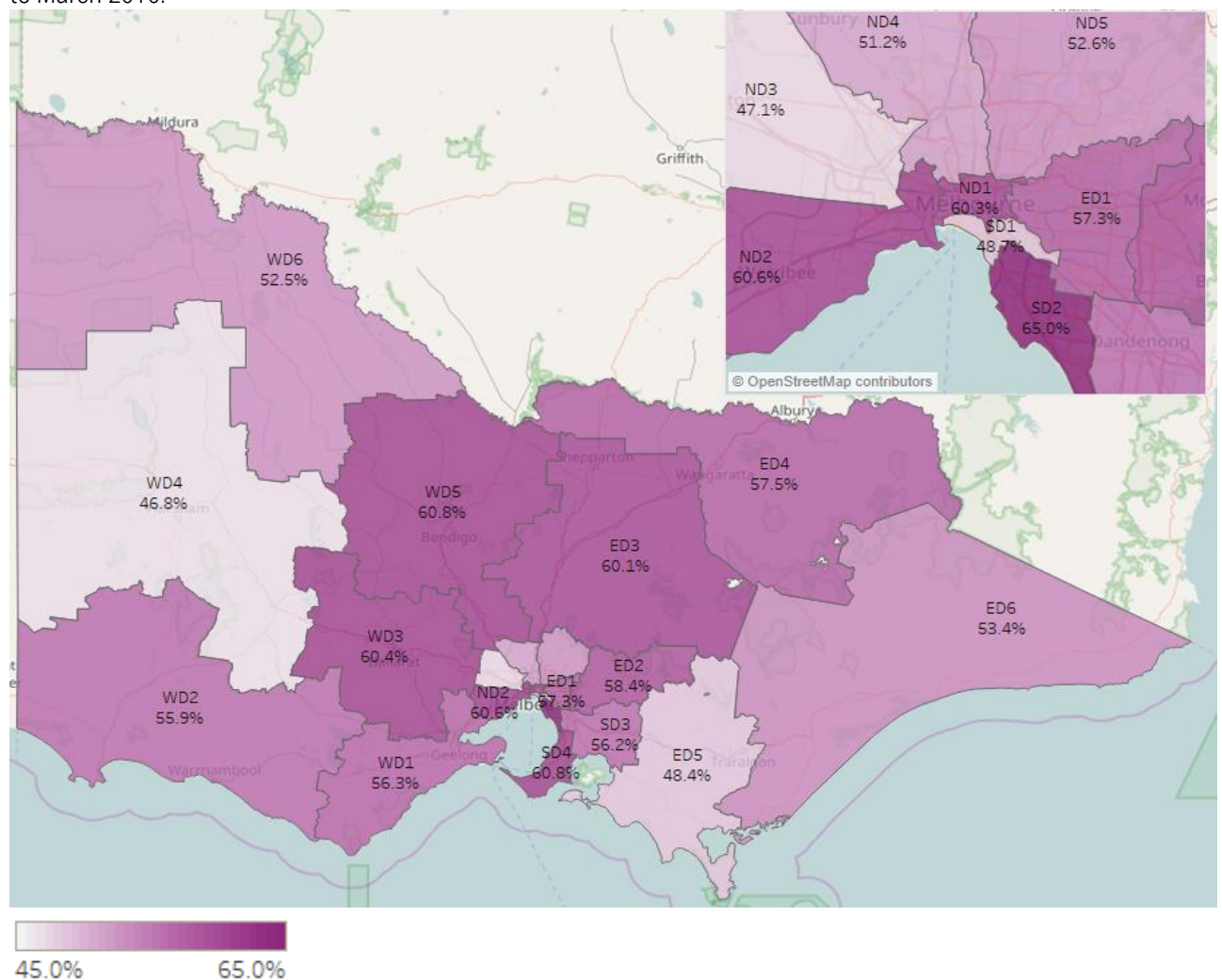


Table 1 shows that the highest proportion of cautions issued by Local Government Area was in the Macedon Ranges, where 86.0% of young people received cautions for their index incident. There were also high proportions recorded in Mount Alexander (83.3%), Moorabool (82.1%), Northern Grampians (78.6%) and South Gippsland (77.3%). Conversely, just under a third of young people were cautioned for their index incident in Yarra (32.6%). Other low cautioning areas were Horsham (33.9%), La Trobe (35.2%), Port Phillip (35.9%) and Whitehorse (39.2%).

Table 1. Local Government Areas* with the highest and lowest proportion of cautions for young people, April 2015 to March 2016

Local Government Area	Young people cautioned	
	Number	% of young people
Highest five Local Government Areas by proportion of cautions		
Macedon Ranges	43	86.0%
Mount Alexander	25	83.3%
Moorabool	32	82.1%
Northern Grampians	22	78.6%
South Gippsland	17	77.3%
Lowest five Local Government Areas by proportion of cautions		
Yarra	15	32.6%
Horsham	20	33.9%
La Trobe	75	35.2%
Port Phillip	14	35.9%
Whitehorse	29	39.2%

*Excludes Local Government Areas with less than 20 index incidents recorded.

3.2 Likelihood of receiving a caution by young offender characteristics

The relationships between young offender characteristics and their likelihood of receiving a caution for their index incident were examined. Table 2 presents the demographic, index incident and offending history characteristics of the 5,981 offenders deemed technically eligible to receive a caution in the year ending March 2016.

Table 2. Characteristics of cautioned and charged young people

	Young people who were cautioned		Young people who were charged		χ^2
	n	%	n	%	
<i>Demographic characteristics</i>					
Sex					20.614, $p < .0001$
Male	2,325	69.1	1,944	74.5	
Female	1,038	30.9	666	25.5	
Age at first offence					150.927, $p < .0001$
10-12	444	13.2	614	23.5	
13-15	1,826	54.2	1,431	54.8	
16-17	1,098	32.6	568	21.7	

	Young people who were cautioned		Young people who were charged		χ^2
	n	%	n	%	
Indigenous status					65.327, $p < .0001$
Aboriginal or Torres Strait Islander	154	4.6	259	9.9	
Neither Aboriginal or Torres Strait Islander	2,387	70.9	1,741	66.6	
Unknown	827	24.6	613	23.5	
Country of birth					206.032, $p < .0001$
Australia	2,647	78.6	2,252	86.2	
Other countries	232	6.9	265	10.1	
Unknown/not stated	489	14.5	96	3.7	
Family violence history					244.747, $p < .0001$
Victim	580	17.2	911	34.9	
Perpetrator	637	18.9	1,294	49.5	630.561, $p < .0001$
<i>Index incident</i>					
Age					291.162, $p < .0001$
10-12	327	9.7	70	2.7	
13-15	1,731	51.4	999	38.2	
16-17	1,310	38.9	1,544	59.1	
Number of days to police disposition					1,003.480, $p < .0001$
0 to 7 days	1,011	30.0	281	10.8	
8 to 30 days	1,385	41.1	540	20.7	
31 to 90 days	602	17.9	830	31.8	
91 or more days	370	11.0	962	36.8	
Offence types					509.978, $p < .0001$
Crimes against the person	451	13.4	1,011	38.7	
Property and deception offences	2,215	65.8	1,635	62.6	6.546, $p < .05$
Drug offences	368	10.9	167	6.4	37.158, $p < .0001$
Public order and security offences	347	10.3	370	14.2	20.748, $p < .0001$
Justice procedure offences	43	1.3	314	12.0	302.406, $p < .0001$
Other offences	87	2.6	37	1.4	9.873, $p < .01$
Specific offence types					242.517, $p < .0001$
Serious assault	108	3.2	372	14.2	
Theft of motor vehicle	64	1.9	253	9.7	177.541, $p < .0001$
Burglary	292	8.7	292	11.2	10.480, $p < .01$
SEIFA of residence at index incident					107.398, $p < .0001$
30% most disadvantaged deciles	1,223	36.7	1,254	48.8	
40% medium disadvantaged	1,354	40.6	946	36.8	
30% least disadvantaged deciles	755	22.7	371	14.4	

	Young people who were cautioned		Young people who were charged		χ^2
	n	%	n	%	
Geographic location of residence at index incident					8.264, $p < .05$
Metropolitan	1,911	56.7	1,442	55.2	
Regional	450	13.4	418	16.0	
Rural	1,007	29.9	753	28.8	
<i>Offending history</i>					
Prior offences recorded					2,096.843, $p < .0001$
No prior offences	2,833	84.1	797	30.5	
1 prior offence	335	10.0	337	12.9	
2 to 4 prior offences	139	4.1	486	18.6	
5 or more prior offences	61	1.8	993	38.0	
Prior offence types					
Crimes against the person	157	4.7	1,081	41.4	1,207.942, $p < .0001$
Property and deception offences	394	11.7	1,617	61.9	1,660.439, $p < .0001$
Drug offences	40	1.2	314	12.0	309.883, $p < .0001$
Public order and security offences	74	2.2	641	24.5	697.321, $p < .0001$
Justice procedure offences	36	1.1	618	23.7	770.466, $p < .0001$
Other offences	17	0.5	107	4.1	93.415, $p < .0001$
Prior specific offence types					
Serious assault	51	1.5	623	23.8	733.633, $p < .0001$
Motor vehicle theft	22	0.7	438	16.8	537.841, $p < .0001$
Burglary	84	2.5	689	26.4	745.227, $p < .0001$
Prior police actions					
Caution	461	13.7	1,479	56.6	1,236.494, $p < .0001$
Charge	108	3.2	1,231	47.1	1,632.326, $p < .0001$

As shown in Table 2, there were statistically significant relationships between receiving a caution and several characteristics. Specifically:

- Females are more likely to be cautioned than charged, comprising 30.9% of the cautioned population compared with 25.5% of the charged population.
- Individuals aged 10 to 12 years at their first recorded incident were more likely to be charged at their index incident than cautioned, comprising 23.5% of the charged population compared to 13.2% of the cautioned population.
- People who identified as Aboriginal or Torres Strait Islander were slightly less likely to be cautioned than charged, making up 4.6% of those cautioned and 9.9% of those charged.
- Young people with a history of family violence (as either victim or perpetrator) were more likely to be charged than cautioned.
- Young people who were older at the time of their index incident were more likely to be charged than cautioned.

Fifty-nine percent of those charged were aged 16 to 17 years at the time of their index incident, compared to 2.7% of those aged 10 to 12 years.

- The less time between an offence being committed and police proceeding against a young person, the more likely a young person was to be cautioned than charged.
- Incidents involving crime against the person offences, public order and security offences and justice procedure offences were more likely to result in a charge, whereas incidents involving property and deception offences, drug offences and other offences were more likely to result in a caution.
- Incidents that involved serious assault, theft of a motor vehicle or burglary are more likely to result in a charge than a caution.
- Those who lived in more socio-economically disadvantaged postcodes were more likely to be charged than cautioned. Forty-eight percent of young people who lived in the 30% most disadvantaged postcodes were charged compared to 14.4% of young people who lived in the 30% least disadvantaged postcodes.
- Young people from rural areas were slightly more likely to be cautioned than charged, comprising 29.9% of the cautioned population compared to 28.8% of the charged population.
- The more prior offences (of any type) recorded, the more likely a young person was to be charged than cautioned.
- Prior charges increased the likelihood of a young person receiving a charge rather than a caution.

Those factors identified above in Table 2 as having a significant relationship with whether police caution or charge a young person were used to construct a logistic regression model. The model accounts for 65% of the variance in disposition (pseudo $R^2 = .65$; $p < .0001$) and accurately predicts 84.2% of group membership. Furthermore, this model revealed which combination of explanatory factors is most useful in predicting whether or not someone will be cautioned at their index incident, while controlling for the effects of all the other variables in the model. Only those factors found to contribute statistically to predicting whether an individual will be cautioned have been included in the final model outlined below in Table 3.

Table 3. Logistic regression model comparing odds of being cautioned with odds of being charged

Predictor	<i>B</i>	Odds Ratio	95% Confidence Interval of the Odds Ratio	Significance level (<i>p</i>)
Indigenous status				
Neither Aboriginal or Torres Strait Islander	Reference*	–	–	<.0001
Aboriginal or Torres Strait Islander	0.73	2.08	1.51, 2.88	<.0001
Unknown	0.52	1.68	1.40, 2.01	<.0001
Country of birth				
Australia	Reference*	–	–	<.0001
Other countries	0.49	1.63	1.24, 2.16	<.0001
Unknown/not stated	-0.83	0.44	0.32, 0.60	<.0001

Predictor	<i>B</i>	Odds Ratio	95% Confidence Interval of the Odds Ratio	Significance level (<i>p</i>)
Prior offences recorded				
No prior offences	Reference*	–	–	<.0001
1 prior offence	1.24	3.47	2.80, 4.30	<.0001
2 to 4 prior offence	2.24	9.36	7.26, 12.08	<.0001
5 or more prior offences	3.37	29.19	20.91, 40.45	<.0001
Prior Drug offences	0.49	1.64	1.04, 2.58	.032
Prior Motor vehicle theft	0.81	2.24	1.34, 3.76	.002
Prior family violence perpetrator	0.52	1.68	1.42, 2.00	<.0001
Index Age				
10-12	Reference*	–	–	<.0001
13-15	0.79	2.20	1.52, 3.17	<.0001
16-17	1.21	3.34	2.31, 4.84	<.0001
Index number of days to police disposition				
0 to 7 days	Reference*	–	–	<.0001
8 to 30 days	0.04	1.04	0.82, 1.31	.755
31 to 90 days	1.37	3.95	3.12, 5.01	<.0001
91 or more days	1.72	5.59	4.37, 7.16	<.0001
SEIFA of residence at index incident				
30% most disadvantaged deciles	Reference*	–	–	<.0001
40% medium disadvantaged	-0.35	0.71	0.59, 0.85	<.0001
30% least disadvantaged deciles	-0.62	0.54	0.43, 0.69	<.0001
Geographic location of residence at index incident				
Metropolitan	Reference*	–	–	<.0001
Regional	-0.48	0.62	0.48, 0.79	<.0001
Rural	-0.50	0.60	0.50, 0.73	<.0001
Index offence types				
Index crimes against the person offence	2.59	13.39	9.92, 18.06	<.0001
Index property and deception offence	1.87	6.51	4.91, 8.64	<.0001
Index drug offence	0.79	2.21	1.55, 3.14	<.0001
Index public order and security offence	1.78	5.90	4.40, 7.92	<.0001
Index justice procedure offence	2.98	19.72	11.92, 32.62	<.0001
Index specific offence types				
Index serious assault offence	0.66	1.93	1.39, 2.70	<.0001
Index theft of motor vehicle offence	1.53	4.62	3.13, 6.82	<.0001
Index burglary offence	0.48	1.61	1.25, 2.09	<.0001

*Effect sizes are measured in comparison with the reference category, so no odds ratio or confidence interval is listed for this category but a significance level is still provided where there are significant differences between the reference category and other categories.

In summary, when all other variables are controlled for:

- Indigenous status continues to be a significant predictor for cautioning, with young people identifying as Aboriginal or Torres Strait Islander approximately twice as likely ($OR = 2.1$) to be charged compared to non-Indigenous young people.
- Those born in a country other than Australia are 1.6 times more likely to be charged than those born in Australia.
- The number of prior offences recorded continues to be a significant predictor of cautioning; individuals with 5 or more prior offences are 29.2 times more likely to be charged than those with no prior offences.
- Those with prior drug offences are 1.6 times more likely to be charged than those with no drug offending history.
- Young people with prior motor vehicle theft offences are 2.2 times more likely to be charged than those with no history of motor vehicle theft. .
- Those previously recorded as a perpetrator in a family violence incident are 1.7 times more likely to be charged than those who have no recorded history as a family violence perpetrator. .
- The age of the young person at the time of the index incident is a significant predictor of cautioning, with those aged 16 to 17 years 3.3 times more likely to be charged than those aged 10 to 12 years at the time of their index incident.
- Fewer days to police disposition is related to an increased likelihood of cautioning, with index incidents taking 91 days or more 5.6 times more likely to result in a charge than incidents taking less than 7 days.
- Those residing in the 30% least disadvantaged postcodes are twice as likely to be cautioned as those living in the 30% most disadvantaged postcodes.
- Those residing in regional or rural Victoria are 1.6 times more likely to be cautioned than those residing in metropolitan areas.
- Index incidents involving crimes against the person or justice procedure offences have a higher probability of resulting in a charge than incidents involving drug offences.
- Index incidents that involve a serious assault, theft of motor vehicle or burglary offences have a higher probability of resulting in a charge than a caution.

3.3 Reoffending following police caution

Results revealed that 40.2% (n=2,406) of the total cohort had a reoffending incident within twelve months of their index incident. Overall, young people cautioned following their index incident were found to have a significantly lower rate of reoffending compared to those who were charged (26.8% of those cautioned compared to 57.6% of those charged). However, as described in section 3.2, several demographic and offending characteristics were significantly related with their likelihood of being cautioned. It was therefore necessary to identify matched groups of cautioned and charged young offenders in order to minimise the impact of selection bias on the results of the reoffending analyses. Propensity score matching was used to overcome this bias.

The logistic regression model outlined above in Table 3 was used to compute propensity scores for each young person for their index incident. This enabled a subset of cautioned young people to be matched with a subset of charged young people who, based on identified predictor variables, had a similar likelihood of having a police recorded action of either outcome. The groups were matched using one-to-one matching without replacement. A total of 917 cautioned young people were matched with a group of 917 charged young people. The logistic regression model was then re-run on the matched dataset and was no longer significant in predicting whether a young person was cautioned or charged (pseudo $R^2=.009$; $p=.99$), suggesting that the matched groups were statistically equivalent with respect to all the predictor variables in the regression model.

In order to determine the effect of offender characteristics on reoffending behaviour, chi-square analyses were conducted separately on the matched cautioned and charged groups identified through the propensity score matching process. Table 4 presents the results of these analyses for both groups.

Table 4. One-year reoffending rates for matched cautioned and charged young people, by selected offender characteristics

	Young people who were cautioned					Young people who were charged						
	Reoffended		No reoffending		χ^2	Reoffended		No reoffending		χ^2		
	n	%	n	%		n	%	n	%			
Sex						0.332, $p=0.564$						0.499, $p=0.480$
Male	244	74.2	425	72.4		320	73.1	359	75.1			
Female	85	25.8	162	27.6		118	26.9	119	24.9			
Age at first offence						31.158, $p<.0001$						57.225, $p<.0001$
10-12	56	17.0	54	9.2		95	21.7	42	8.8			
13-15	195	59.3	296	50.3		241	55.0	226	47.2			
16-17	78	23.7	238	40.5		102	23.3	211	44.1			
Indigenous status						0.941, $p=0.625$						7.581, $p<0.05$
Aboriginal or Torres Strait Islander	25	7.6	35	6.0		40	9.1	22	4.6			
Non-Indigenous	219	66.6	397	67.5		293	66.9	332	69.3			
Unknown	85	25.8	156	26.5		105	24.0	125	26.1			
Family violence history												
Victim	118	35.9	104	17.7	37.997, $p<.0001$	148	33.8	106	22.1	15.533, $p<.0001$		
Perpetrator	170	51.7	140	23.8	73.185, $p<.0001$	204	46.6	111	23.2	55.562, $p<.0001$		
Age at index incident						13.271, $p<0.05$						29.678, $p<.0001$
10-12	19	5.8	20	3.4		27	6.2	20	4.2			
13-15	169	51.4	245	41.7		232	53.0	177	37.0			
16-17	141	42.9	323	54.9		179	40.9	282	59.0			

	Young people who were cautioned					Young people who were charged				
	Reoffended		No reoffending		χ^2	Reoffended		No reoffending		χ^2
	n	%	n	%		n	%	n	%	
SEIFA residence					3.125, $p=0.210$					3.655, $p=0.161$
30% most disadvantaged deciles	152	46.2	258	43.9		201	45.9	207	43.2	
40% medium disadvantaged	129	39.2	217	36.9		172	39.3	178	37.2	
30% least disadvantaged deciles	48	14.6	113	19.2		65	14.9	94	19.6	
Geographic location of residence					0.720, $p=0.698$					0.410, $p=0.815$
Metropolitan	195	59.3	337	57.3		256	58.5	270	56.4	
Regional	42	12.8	71	12.1		56	12.8	65	13.6	
Rural	92	28.0	180	30.6		126	28.8	144	30.1	
Prior offences recorded					48.878, $p<.0001$					37.287, $p<.0001$
No prior offences	158	48.0	410	69.7		231	52.7	319	66.6	
1 prior offence										
2 to 4 prior offence	79	24.0	97	16.5		81	18.5	94	19.6	
	54	16.4	59	10.0		63	14.4	45	9.4	
5 or more prior offences	38	11.6	22	3.7		63	14.4	21	4.4	

As shown in Table 4, there were statistically significant relationships for both the charged and the cautioned group between reoffending and a number of characteristics. The nature of these relationships are as follows:

- In both the cautioned and the charged groups, young people aged 16 to 17 years at their first offence were less likely to reoffend than not (23.7% of the cautioned group reoffended compared to 40.5% who did not and 23.3% of the charged group reoffended compared to 44.1% who did not).
- For the charged group, young people who identified as Aboriginal or Torres Strait Islander were more likely to reoffend, comprising 9.1% of those who reoffended compared to 4.6% of those who did not. However, this was not a significant relationship in the cautioned group.
- A history of family violence (as either a victim or a perpetrator) significantly increased the likelihood of reoffending in both the cautioned and the charged groups.
- In both groups, people who were younger at the time of their index incident were significantly more likely to reoffend.
- The more prior offences recorded, the more likely the young person was to reoffend in both the cautioned and charged groups.

No significant relationships were found in either group between sex and reoffending, whether they lived in metropolitan, regional or rural Victoria at the time of their index incident, or whether they lived in the 30% most disadvantaged, middle 40% or 30% least disadvantaged postcodes in Victoria.

Additional chi-square analyses were conducted to examine the effect of offence type on reoffending in each disposition group. The results of these analyses are provided in Table 5.

Table 5. One-year reoffending rates for propensity matched cautioned and charged young people, by selected offence division

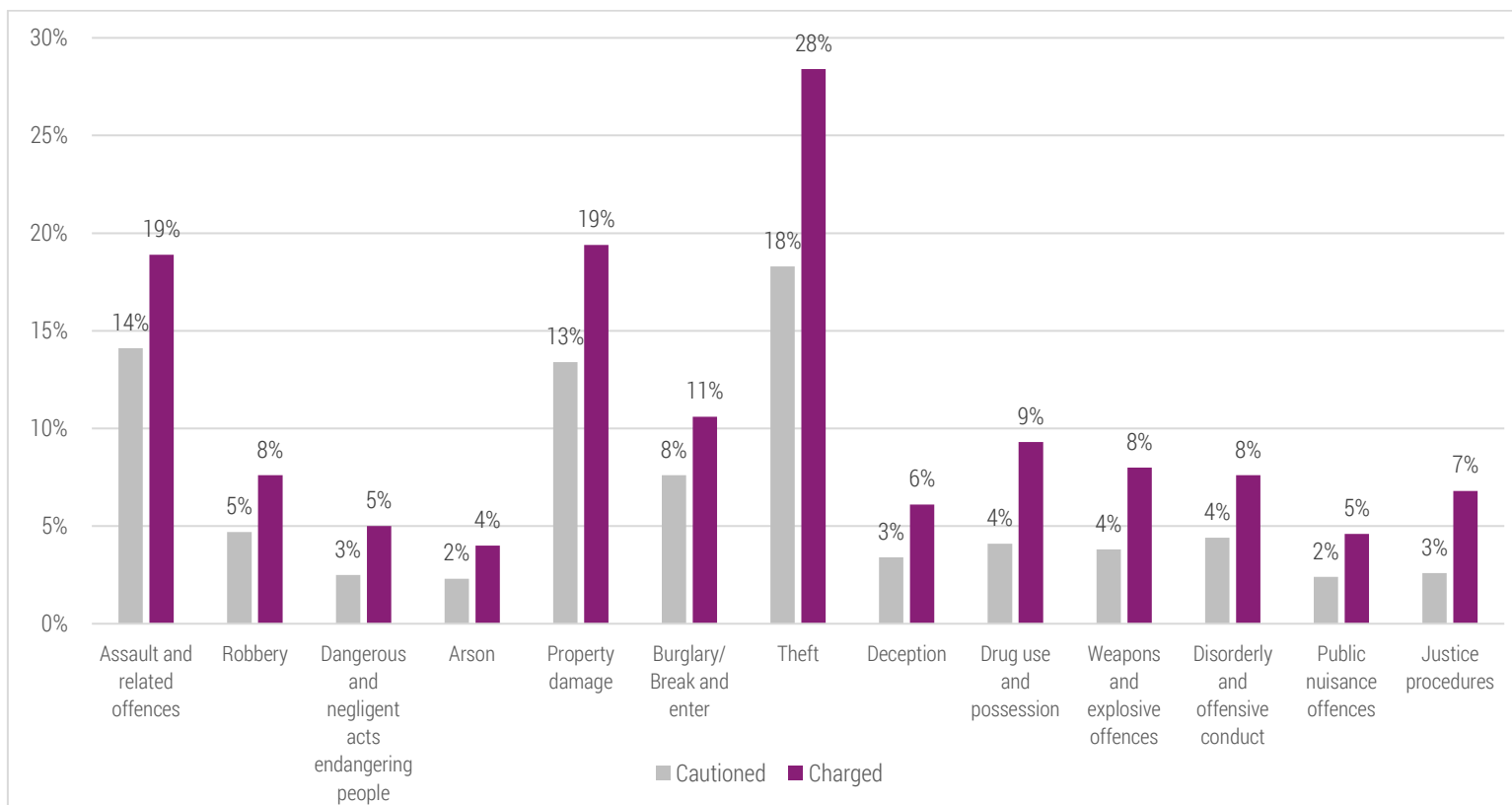
	First incident after index incident				Any incident after the index incident			
	Reoffending incident		No reoffending incident		Reoffending incident		No reoffending incident	
	n	%	n	%	n	%	n	%
<i>Reoffending overall</i>								
Young people who were cautioned	329	35.9	588	64.1	n/a	n/a	n/a	n/a
Young people who were charged	438	47.8	479	52.2	n/a	n/a	n/a	n/a
χ^2	26.625, $p < .0001$							
<i>Crimes against the person</i>								
Young people who were cautioned	89	9.7	828	90.3	169	18.4	748	81.6
Young people who were charged	115	12.5	802	87.5	227	24.8	690	75.3
χ^2	3.728, $p = 0.054$				10.834, $p < 0.01$			
<i>Property and deception offences</i>								
Young people who were cautioned	207	22.6	710	77.4	245	26.7	672	73.3
Young people who were charged	247	26.9	670	73.1	353	38.5	564	61.5
χ^2	4.684, $p = 0.031$				28.942, $p < .0001$			
<i>Drug offences</i>								
Young people who were cautioned	23	2.5	894	97.5	40	4.4	877	95.6
Young people who were charged	25	2.7	892	97.3	88	9.6	829	90.4
χ^2	0.086, $p = 0.770$				19.351, $p < .0001$			
<i>Public order and security offences</i>								
Young people who were cautioned	37	4.0	880	96.0	81	8.8	836	91.2
Young people who were charged	55	6.0	862	94.0	154	16.8	763	83.2
χ^2	3.708, $p = 0.054$				26.009, $p < .0001$			
<i>Justice procedures offences</i>								
Young people who were cautioned	19	2.1	898	97.9	66	7.2	851	92.8
Young people who were charged	87	9.5	830	90.5	193	21.1	724	79.0
χ^2	46.297, $p < .0001$				72.515, $p < .0001$			

Overall, young people who were cautioned were less likely to have a reoffending incident than those charged; 35.9% of those cautioned reoffended compared to 47.8% of young people who were charged. For the first reoffending incident, those who were cautioned were significantly less likely to commit a property and deception offence (22.6% of those cautioned compared with 26.9% of those charged) or a justice procedures offence (2.1% of those cautioned

compared with 9.5% for those charged). Offenders who were cautioned were also significantly less likely to commit any form of offence (by offence division) in the year following the index incident.

Figure 3 shows the differences in reoffending rates for selected offence subdivisions that recorded significantly lower rates for cautioned young people compared with charged young people. These results were based on all offences recorded for an individual within one year of their index incident.

Figure 3. One year reoffending rates for matched cautioned and charged young people, by selected offence subdivisions



The largest disparity was recorded for theft offences, where 18.3% of those cautioned young people had a theft offence in the year after their index incident, compared with 28.4% of those charged. In addition, cautioned youth also recorded significantly lower reoffending rates for property damage offences (13.4% of cautioned offenders compared with 19.4% of charged young people) and assault and related offences (14.0% of cautioned offenders compared with 18.9% of charged young people). In contrast, no subdivision recorded a significantly higher reoffending rate for cautioned young people compared with charged young people.

3.4 Reoffending frequency following police caution

In addition to investigating whether cautioning was associated with reoffending, the effectiveness of cautioning at reducing the amount of reoffending was also analysed. Table 6 shows reoffenders by the number of offences (of any type) recorded against them in the year after their index incident by whether they were cautioned or charged for their index incident. Anyone who did not reoffend was excluded from the analysis.

Table 6. Reoffending intensity for young people in the year following a caution or charge

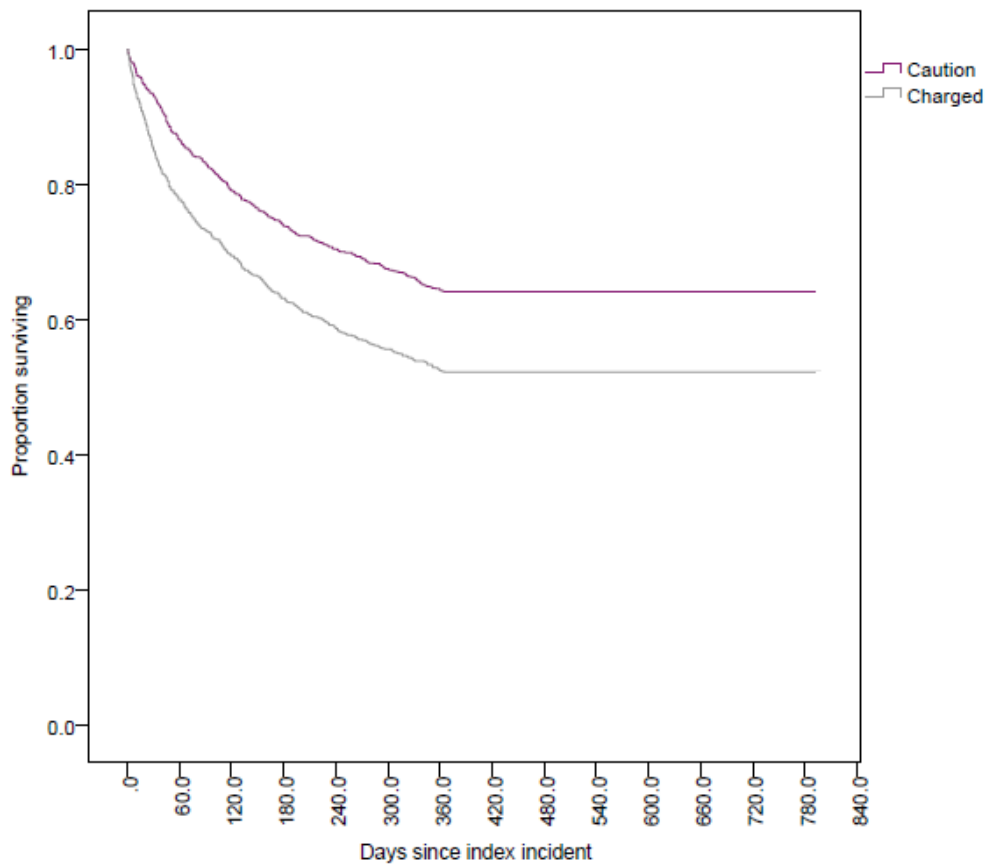
	Young people who were cautioned		Young people who were charged		χ^2
	n	%	n	%	
1 offence	117	35.6	105	24.0	25.025, $p < .0001$
2 offences	52	15.8	50	11.4	
3 offences	33	10.0	43	9.8	
4 offences	20	6.1	22	5.0	
5 or more offences	107	32.5	218	49.8	

As shown in Table 6, there was a statistically significant difference in the frequency of further offences between young people who were cautioned and those who were charged. Cautioned young people were more likely to have only one offence, while those who were charged were more likely to have five or more offences recorded in the year after their index incident.

3.5 Time to first reoffending incident following a caution or charge

Kaplan-Meier survival estimates were generated to examine the time until reoffending for cautioned and charged young people in the matched set. The proportion who had not reoffended (i.e., 'surviving') over a twelve month period is shown in Figure 4.

Figure 4. Proportion not reoffending by days since index disposition for cautioned and charged young people



As shown in Figure 4, there was a statistically significant difference between the survival curves for cautioned and charged young people (log rank $\chi^2 = 30.73$, $df = 1$, $p < .001$). Table 7 shows that 3 months following their index incident, 26.9% of charged, compared to 17.0% of cautioned young people had reoffended.

Table 7. Proportion of cautioned and charged young people reoffending at 3, 6 and 12 months post index incident

Days since index incident	Proportion of cautioned young people who reoffended	Proportion of charged young people who reoffended
91 (3 months)	17.0%	26.9%
180 (6 months)	26.2%	36.9%
365 (12 months)	35.9%	47.8%

4. Discussion

The purpose of the current study was to investigate youth offending in Victoria by analysing the impact of the type of police contact on reoffending within a twelve month period. Consistent with previous research, the findings indicated that police cautioning resulted in a significantly lower proportion of young people reoffending (Cunningham, 2007; Dennison et al. 2006; Vignaendra & Fitzgerald, 2006; Payne & Weatherburn, 2015). A total of 5,981 young people were involved in this study, with 40.2% reoffending within twelve months of their index incident regardless of their index incident disposition. Once matched on significant factors, cautioned young people were found to have a significantly lower rate of reoffending (35.9% of those cautioned compared to 47.8% of those charged). In particular, reoffending rates for theft offences, property damage and assault and related offences were significantly lower for cautioned young people compared to charged young people. This finding is significant as these offence subdivisions are the highest volume offence types committed by young people (Crime Statistics Agency, 2017). These results provide evidence for the effectiveness of cautions in responding to youth reoffending.

Not only were cautioned young people significantly less likely to reoffend, they also reoffended at a significantly slower rate. Survival analysis found that cautioned young people reoffended at half the rate of charged young people. Just over a quarter of all cautioned young people had reoffended within six months (26.2%), while a quarter of all charged young people had reoffended within three months of their index incident (26.9%). This finding indicates an opportunity to develop targeted and timely intervention strategies for young people at risk of reoffending.

A number of offender characteristics were found to have a significant impact on the likelihood of police issuing a caution as opposed to a charge. Consistent with Snowball (2008) and Allard et al. (2010), young people who identify as Aboriginal or Torres Strait Islander and were older at the time of their index incident were more likely to be charged than those who identify as neither Aboriginal nor Torres Strait Islander and were younger at the time of their incident. Other key factors impacting the likelihood of being cautioned include the number of prior offences recorded and the type of offences committed during the index incident. Young people with five or more prior offences were significantly more likely to be charged than those with no prior offences. Additionally, those who committed justice procedure offences or crimes against the person were much more likely to receive a charge than any other offence type. Interestingly, in contrast with previous research (Dennison et al. 2006, Hayes and Daly, 2004), this study found that when other related factors are controlled for, sex did not have a significant impact on whether a young person received a caution or a charge. This could be due to a complex relationship between sex and other factors such as Indigenous status, number of prior offences or offence types committed. For example, proportionally, more male offenders identified as Aboriginal or Torres Strait Islander and had more prior offences than females, both factors that had significant relationships with whether the individual received a caution or a charge.

This study also found that young people that lived in regional or rural areas at the time of their index incident were more likely to receive a caution than a charge. This contrasts previous research by Jordan and Farrell (2013) who

concluded that cautioning rates in rural and regional areas are below that of metropolitan areas. Descriptive statistics included in this study also found that the areas with the highest proportion of cautions were all in regional or rural Victoria, however these statistics showed a wide range of cautions across the state.

This study also examined a number of offender characteristics in order to determine key factors in the likelihood of a young person reoffending after a caution or a charge. In the matched cohort, it was found that for both the cautioned group and the charged group, the younger the offender is at their first offence and the younger the offender was at their index incident increased the likelihood of reoffending. This finding supports previous research by Vignaendra and Fitzgerald (2006) and Sutherland and Millstead (2016c). In addition, Dennison et al. (2006) concluded that child maltreatment was a significant risk factor in reoffending for young people. Related to this, the current study found that a young person's history of family violence, as either a perpetrator or a victim, also impacted on reoffending behaviour. Those who experienced family violence were more likely to reoffend, regardless of whether they were charged or cautioned for their index incident.

Interestingly, when examining Indigenous status in the matched cohort, young people who identified as Aboriginal or Torres Strait Islander were significantly more likely to reoffend in the charged group, but no significant relationship was found for the cautioned group. This supports research by Allard et al. (2010) that more formal and more frequent contact with the justice system increases the propensity to reoffend for Aboriginal and Torres Strait Islander people.

As mentioned previously, Victoria Police members must adhere to several eligibility criteria when issuing a caution. Unfortunately, not all of these criteria are able to be assessed using LEAP data, therefore, technical eligibility was determined based on the age of the individual at the time of the offence. Due to this, it is possible that some individuals in this study were deemed technically eligible for the purpose of the analysis when they were not. As the decision to caution a child is discretionary, police members are also directed to consider a range of other factors before deciding to issue a caution including; prior criminal history, number of victims involved and number of offences against a single victim. However, what impact these factors have on police discretion was not able to be fully assessed in this study.

An admission of guilt by the young person involved is a key criteria in police issuing a caution, and may constitute an important limitation in this study. A number of factors may influence a young person in pleading guilty and therefore, being eligible for a caution. These may include legal advice, culture, previous contact with police (either positive or negative experiences) and the demeanour and training of the individual officers involved. As Allard et al. (2010) state, differences found in cautioning rates between those who identify as Aboriginal or Torres Strait Islander and non-Indigenous may be due to differences in attitude and previous contact with police between the two groups. Further research into this aspect of police cautioning is necessary to improve understanding of youth offending behaviour and the impact of police cautioning. This may assist in formulating policy to assist police in addressing any disparity between socio-economic, ethnic or racial groups and ensure equal opportunities for all young people.

Another limitation may be that some young people who were charged at their index incident may have spent a portion or all of the twelve month follow up period in custody, reducing or eliminating their likelihood of reoffending. However, this information was not available for inclusion in the current study and could lead to imprecise estimations of the true number of young people who reoffended within the follow up period.

In addition to the limitations outlined above, it should be noted that there were fundamental restrictions in using data recorded on the Victoria Police LEAP database. Unmeasurable qualitative differences, such as aggravating or mitigating factors in an offending incident, the number of informal police warnings issued to an individual, an individual's demeanour at the time of police interaction and other unobserved factors have an unknown influence on the outcomes of young offending behaviour.

The findings presented here provide interesting considerations for policy makers and support previous research that

indicates that cautioning young people reduces reoffending behaviour. Victoria Police are currently reviewing their policies and guidelines regarding child cautions, therefore, once implemented, an evaluation of these changes would be beneficial in light of the current findings. Additional research into the effectiveness of pre-court diversionary programs and restorative justice initiatives in Victoria would also add to the growing body of evidence regarding the benefits of policies that divert young people away from the courts.

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